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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,030	02/27/2002	Alan E. Hill	30822-PCT-CIP	1851

5179 7590 04/09/2003

PEACOCK MYERS AND ADAMS P C  
P O BOX 26927  
ALBUQUERQUE, NM 871256927

EXAMINER
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MONBLEAU, DAVIENNE N

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/086,030

Applicant(s)

HILL, ALAN

Examiner

Davienne Monbleau

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Paul IP*

PAUL IP

SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other:

## DETAILED ACTION

### *Election/Restrictions*

Claims 10-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

### *Information Disclosure Statement*

The IDS filed on 9/10/2002 has been acknowledged and a signed copy of the PTO-1449 is attached herein.

### *Claim Objections*

Regarding Claim 1, in the last line, "prevents" should be changed to – prevent –.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1, the phrase "via said electrical excitation generator" does not provide a clear structural limitation. Also, there is no structural support as to how the electrical excitation generator and said heat exchanger control the gas of the temperature.

Regarding Claims 8 and 9, there is a lack of sufficient structural elements to support the method/functional steps claimed.

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Further regarding Claim 8, it is not clear what is being terminated. Also, the meaning of "E/N" should be written out for clarity and to be consistent with the wording of Claim 9.

Further regarding Claim 9, there is no prior definition in the Claim as what "E/N" is. It is suggested that the meaning be written out for clarity, at least initially, and make reference to the shorthand immediately proceeding. Additionally, the part reading "contacting the plasma...lasing the excited iodine" is not clear. The gas forms the plasma in the first part of the claim, but then this section says that the plasma is contacting "a molecule of the gas to generate an excited atomic state of that molecule." The language of the claim is confusing and it seems as if terms are intermixed.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1, to the extent taught and understood, is rejected under 35 U.S.C. 102(e) as being anticipated by Partlo et al. (U.S. Patent No. 6,452,199). Partlo et al. disclose in Figure 1 a generator comprising a power supply and a pulse circuit (10), an excited atomic state generating region (2), a heat exchanger (20) and an electrical excitation generator (8), wherein said pulse circuit discharges a pulse to a gas in said region (2) and generates an excited atomic state of at least one species of molecule in the gas and prevents the gas from heating above 200-degrees Celsius.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-8, to the extent taught and understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Partlo et al. (U.S. Patent No. 6,452,199) in view of Shang et al. (U.S. Patent No. 5,892,328). Regarding Claim 2, Partlo et al. do not teach the listed items. Shang et al. teach in Figure 1 and in column 3 lines 29-49 a generator comprising a plasma tube (12) surrounding by a microwave cavity (18). It would have been obvious to one of ordinary skill in the art to use microwave cavity in Partlo et al., as taught by Shang et al., to create an output beam with the desired wavelength range. It is known in the art to use specific active materials and power sources to create specific output wavelengths.

Regarding Claim 3, there is inherently an electric field associated with the plasma. Providing and maintaining a particular level of ionization and electric field is dependent upon the power source and the pulse power system. Thus, one of ordinary skill in the art would be able to determine how to provide and maintain a specific level.

Regarding Claims 4-6, Partlo et al. teach in column 12 lines 24-26 that a very wide range of repetition rates of pulses may be used. This will directly affect the electric field of the pulses. Thus one of ordinary skill in the art would be able to determine the optimum pulse configuration for the desired output.

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Regarding Claim 7, Partlo et al. teach pre-ionization means in column 10 lines 40-57 and list 5 specific types of techniques. Partlo et al. further state that pre-ionization is a well-developed technique and that other methods are well known.

Regarding Claim 8, Partlo et al. teach in Figure 1 generating a plasma comprising providing a flowing gas, applying a pulse to the gas to form a plasma, continually applying pulses to sustain ionization of the plasma. It is inherent that the applied pulses energy must be above the ionization threshold level in order to create plasma. Partlo et al. do not teach an E/N value. However, it is known in the art that discharge pulses have an electric field, that would be applied to the gas. Therefore, one of ordinary skill in the art would be able to control the intensity of the electric field.

Claim 9, to the extent taught and understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Partlo et al. (U.S. Patent No. 6,452,199) in view of Applicants cited prior art. Partlo et al. teach in Figure 1 generating a plasma comprising providing a flowing gas, applying a pulse to the gas to form a plasma, continually applying pulses to sustain ionization of the plasma. It is inherent that the applied pulses energy must be above the ionization threshold level in order to create plasma. Partlo et al. do not teach an E/N value. However, it is known in the art that discharge pulses have an electric field, which is then applied to the gas. Therefore, one of ordinary skill in the art would be able to control the intensity of the electric field. Partlo et al. do not teach that said gas is iodine. The Applicant teaches in the specification on page 7 that COIL lasers are known in the art, which comprise oxygen and iodine gases. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use iodine in Partlo et al. to create output at a specific wavelength.

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*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: 5,942,854; 6,416,633; 5,504,795; 5,023,897; 6,414,438; 6,051,841; 6,501,780.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 703-306-5803.

The examiner can normally be reached on Mon-Fri 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

*Davienne Monbleau*

DNM  
April 7, 2003

*Paul Ip*

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